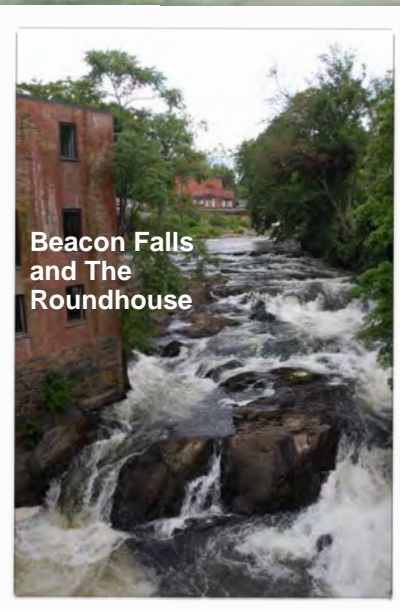
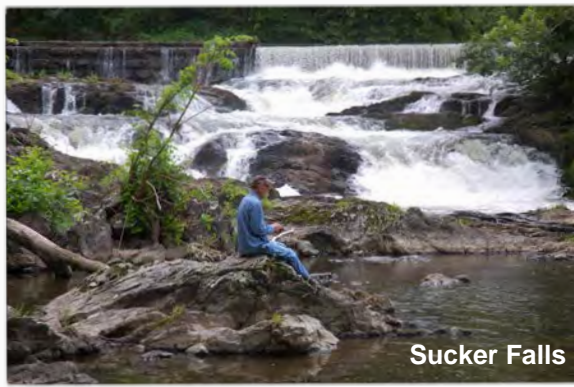
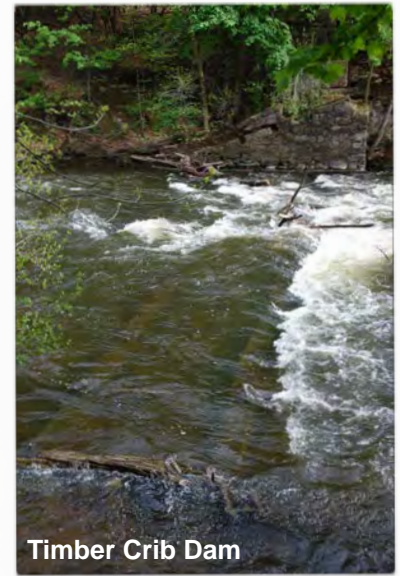


# Fishkill Creek Greenway & Heritage Trail Master Plan



*This master plan document was funded in part by the  
Hudson River Valley Greenway*

**June 2013**





# Fishkill Creek Greenway & Heritage Trail Master Plan



*Adopted by the City of Beacon City Council on June 17, 2013.*

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**Beacon City Council**

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This plan was funded in part by the Hudson River Valley Greenway

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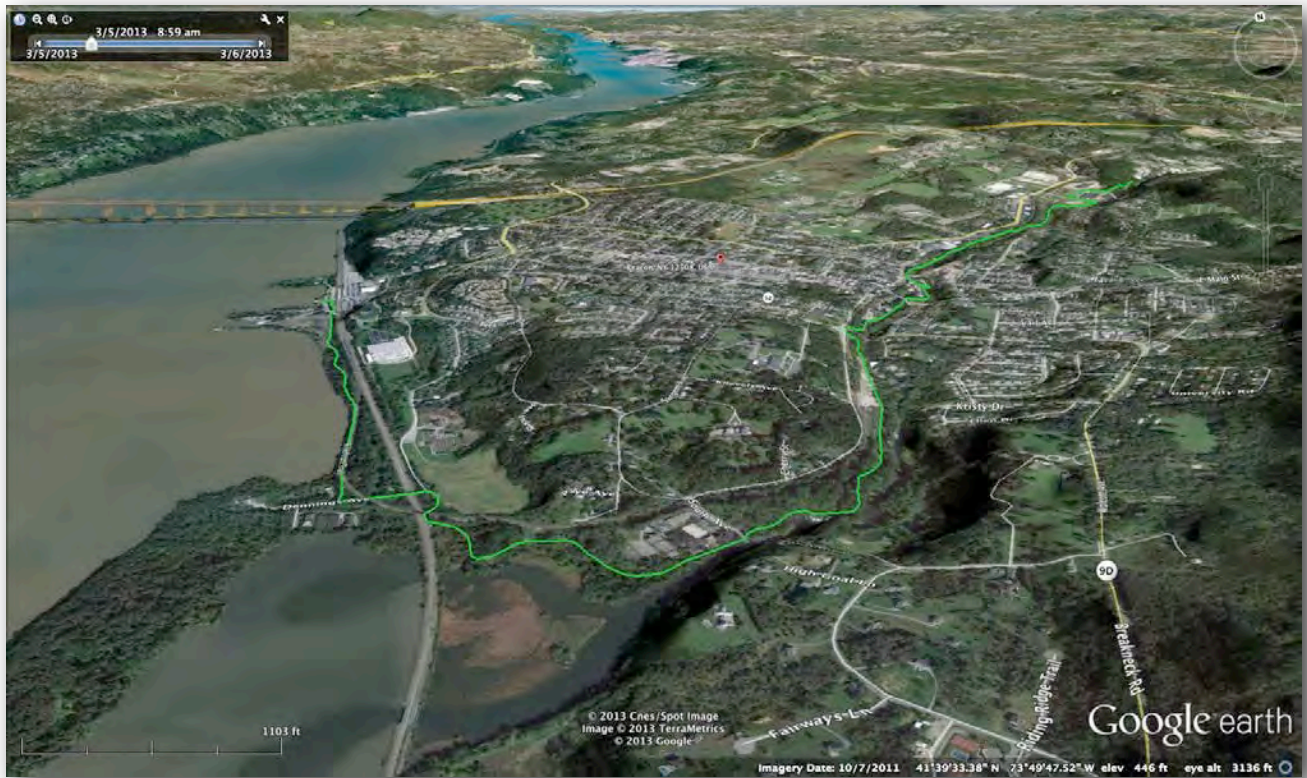
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Proposed Fishkill Creek Greenway & Heritage Trail

## EXECUTIVE SUMMARY

**The Fishkill Creek Greenway & Heritage Trail (FCGHT)** will be a continuous trail connecting the Beacon Metro-North train station to the town of Fishkill through the city of Beacon, reconnecting citizens with the entire length of the Fishkill Creek. The FCGHT is envisioned as a vital arterial connection within Beacon, much the same way as the creek itself has always been a vital part of the city. An essential trail project goal is to shift perception of the city's relationship to the creek from an exploitative one that served industry to a contemporary one that respects the sensitivity of the natural environment and encourages positive interaction with Beacon residents.



*Regional Map*

### **The Fishkill Creek Greenway & Heritage Trail will:**

- *Be continuous, uniform and fluid along its entire length*
- *Connect the existing regional Hudson River Valley Greenway and other trail networks to the scenic, historic, and recreational areas within Beacon*
- *Be located on or over the bank of Fishkill Creek, yet above the high-water mark*
- *Have appropriate width, construction and elements that clearly demarcates the trail as a unique path and place*
- *Strive for universal accessibility to all segments with the understanding that not all sections will be appropriate for all uses and that physical constraints at select locations may prevent complete continuity for some user groups*
- *Exhibit continuity of design along its entire length and throughout all included amenities such as structures, benches, lighting and signage*
- *Incorporate architectural elements that enhance the trail and complement the built landscape of Beacon*

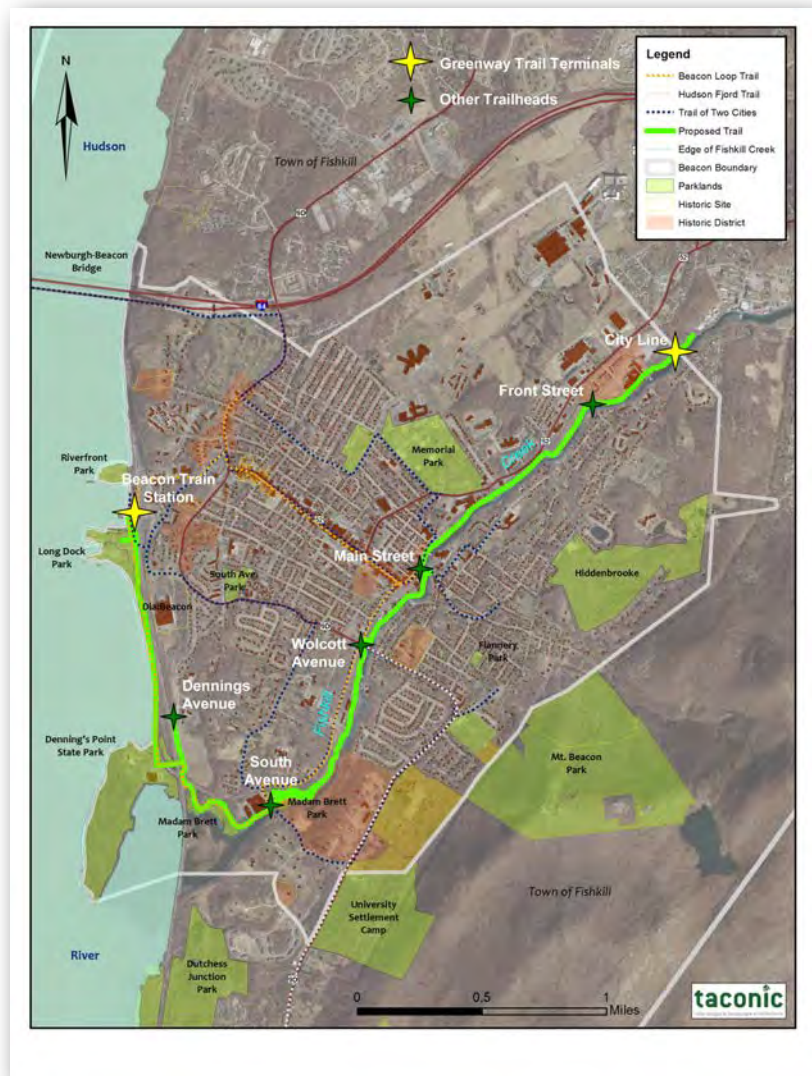
The FCGHT will also become an integral part of a broader vision for open space within Beacon and the greater Hudson River valley by encouraging use of and engagement with the natural, historical and cultural landscape. The FCGHT will foster stewardship of its own corridor and the open spaces and cultural resources it connects. Regionally, the FCGHT is one element of the expanding Hudson River Valley Greenway trail network. Other trail projects in the area include the "Trail of Two Cities" connecting Newburgh and Beacon, the Klara Sauer Trail, Beacon Loop Trail, Mt. Beacon Park, and the Hudson River Water Trail. Other proposed regional trail projects include the Hudson Fjord Trail, a hike/bike trail connecting Cold Spring and Beacon along Route 9D, the Mt. Beacon Incline Railway, and the continuation of The Fishkill Creek Greenway & Heritage Trail into the town of Fishkill (this last element is an ongoing initiative of the Fishkill Greenway Trail Committee).

The central celebrated feature of the FCGHT is the Fishkill Creek itself and its impact on Beacon's landscape and history. The Fishkill Creek provided waterpower and a transportation route for industrial development for three centuries. The creek corridor contains many historically significant bridges, buildings, dams, and factory sites. These historic resources could be used to interpret several important themes in American history through a variety of traditional and virtual methods and educational programming.

This Master Plan provides a framework for city leaders, private property owners and developers to successfully plan for the FCGHT not to be just another trail, but a an exciting and meaningful way to experience the great city of Beacon. In order to begin implementing the FCGHT Master Plan, the City of Beacon must take the following steps:

- *Formally adopt this Master Plan, implement suggested changes to City Zoning Code and take other statutory actions necessary to establish a foundation for the trail's development over time*
- *Administer supportive planning policy and work with private landowners on trail implementation as individual parcels are considered for redevelopment*
- *Support the formation of a potential "Friends" group similar to Walkway Over The Hudson that can take the lead in fundraising, trail construction, marketing and long term stewardship*
- *Be prepared to apply for and/or provide support in the application for grants and other funding for trail implementation, programming and maintenance*

The Beacon Greenway Trail Committee asks that this Master Plan be officially adopted by resolution of the Beacon City Council.



Proposed Overall Trail Map



## EXISTING CONDITIONS AND RESOURCE INVENTORY

The Fishkill Creek was an axis of industrial development and settlement for over 300 years. The Fishkill Creek's story is a typical American river story that reflects many themes in U.S. industrial history. The fortunes of the Creek's mills and factories were tied to universal boom-and-bust economic cycles caused by "crashes," tariffs, wars, and changing technology. The dams on the creek provided water power for factories processing grain, wood, fabric, metals, rubber and other materials. The villages of Matteawan and Fishkill Landing grew up around these industries and eventually merged to form the City of Beacon.

The Beacon area was originally part of the Rombout Patent, purchased from the Wappinger Native American bands in 1683. The first European settlers on Fishkill Creek were Roger and Catharyna



Brett, who built a grist mill in 1709. During the eighteenth century, Fishkill Landing became a small, busy Hudson River port. The first textile mill on the creek was built in 1814 by Peter Schenck. During the first half of the nineteenth century Fishkill Creek industry grew to include foundries, tool and machine shops. During the Civil War textiles and brick making experienced significant growth. By the 1870s the Dutchess & Columbia Railroad built along the creek improving regional transportation for materials and goods, and Fishkill Landing became a vital freight transfer point between New England and the West. Beacon's most significant industry, hat making,

emerged after the Civil War, with the formation of the Matteawan Manufacturing Company in 1864 and Dutchess Hat Company in 1873. Beacon ultimately became the second-largest hat making district in the U.S. after Danbury, CT. Other post-Civil War industries included the New York Rubber Co. and Groverville Carpet Mills. The Carroll Electric Light Company constructed one of the first commercial electric power plants in the U.S. in 1887, and powered factories, a street railway and the Mount Beacon Incline Railway. Fishkill Landing's brick industry expanded in 1880 when massive deposits of brick clay were discovered on Denning's Point.



In 1913, Fishkill Landing and Matteawan incorporated as the City of Beacon. Beacon's last major industry was the 1929 Nabisco plant, now the home of the world-class Dia:Beacon contemporary art museum. Beacon's manufacturing base remained steady through the mid-twentieth century but eroded steadily during the 1970s and 1980s. Today some surviving industrial buildings house residential redevelopments or artist studios, and the creek corridor still includes a number of significant historic buildings, dams, factory sites and bridges.

**See Appendix A for more detailed history of the project area.**

### *Existing Public & Social Trails*

The Fishkill Creek Greenway & Heritage Trail corridor contains a series of existing public and social trails that are currently used by the public for active and passive recreation. However, large gaps exist between these areas of use that currently limit connectivity through the proposed trail corridor. An inventory of existing trails yields heavy use along the Hudson River, the southern end of the Fishkill Creek and in the vicinity of lower Main Street. Existing trails are categorized as follows:

*Public Trails* – The proposed trail corridor contains a significant amount of existing, active trails. These existing trails are currently open to the public and receive a good deal of regular use. The majority of the existing public trails are located on the western side of the proposed trail corridor and include the Klara Sauer Trail (from Beacon Train Station to Denning’s Point State Park) and the trail network within Madam Brett Park. There is also a small section of trail open to the public in the context of a small pocket park at the end of Herbert Street above the Beacon Falls dam.

*Social Trails* - The trail corridor also contains several sections of social trails. Social trails are informal traveled ways across private property that are actively used by the public for various purposes. These social trails are usually access short cuts to interesting points or popular locations. Social trails within the project corridor exist just north of Sucker Falls, on the south side of Churchill Street (to behind the current Beacon Salvage), adjacent to The Roundhouse along the Metro-North Beacon Line and north of the Groveville Mill to the Town of Fishkill boundary and beyond.

*Trail Gaps* – Although the trail corridor contains many existing developed public trails and undeveloped social trails, there are some significant gaps that between these existing trails that need to be filled. These gaps include a connection between the Klara Sauer Trail to Madam Brett Park, from Madam Brett Park to Beacon Falls (Roundhouse), and from Herbert Street to and through the Groveville Mill.

The **Existing Trail Segment Map** illustrates the location of existing public trails, social trails and trail gaps within the trail corridor.



Existing Trail Segment Map

### *Existing Trail Use Types and User Groups*

Currently the public is using the proposed trail route in a variety of ways and for a variety of uses. While most of the activity is happening on existing trails within existing parks, activity is happening along the entire trail route. Observed and/or documented use types that are taking place within the project area include:

- Active physical uses such as walking, hiking, dog-walking, running and biking.
- Passive enjoyment uses such as scenic viewing, photography and bird-watching.
- Transportation uses as an alternative route to Main Street from Route 52 and points north.
- Water uses such as fishing, kayaking and limited swimming.
- Resource interpretation within Long Dock Park and Madam Brett Park.

Specific groups of users currently active in the above use types along the proposed trail route include individuals, families, seniors, fisherman, kayakers and groups of school children (school field trips).

### *Existing Environmental Conditions*

A physical inventory of natural and man-made conditions were documented along the FCGHT corridor in order to establish an understanding existing infrastructure, community resources and any obstacles and constraints that would need to be addressed in the trail's design. The project team reviewed current GIS data provided by Dutchess County to build a complete digital base map of the entire city. Team members also made specific field observations from a variety of accessible vantage points along the trail corridor from March to November 2012. Witnessed areas included riparian areas, floodplains, steep slopes, parks, trails, and land ownership boundaries. GIS data was then edited to conform to observed field conditions where necessary. This inventory provides the foundation for the team's trail planning and design decisions.

The following critical natural features and conditions are noted:

*Creek Edge and Floodplain* - The Fishkill Creek is the dominant physical feature of the FCGHT. The creek follows a well defined channel with mostly flat areas leading up to steep banks down to flowing water. The Creek banks are also defined with bedrock outcrops, sometimes as high as 50', and built infrastructure in the form of building foundations and dams. Also associated with the creek are low areas are subject to seasonal flooding. Trail development within these floodplains may require additional permitting from regulatory agencies.

*Surface Hydrology and Wetlands* - The confluence of the Fishkill Creek and Hudson River (in the vicinity of Madam Brett Park) is a high functioning ecosystem protected with NYSDEC Coastal Fish & Wildlife Habitat status. There are no NWI wetland areas that impact the trail route. There are 2 potential locations where a small intermittent watercourse crosses the trail route that may require a special crossing element. The first is just north of South Ave.(in Madam Brett Park) and the second is just north of the Tallix Foundry complex.

*Steep Slopes* - A few areas along the corridor have sections of steep slopes, which poses a challenge to trail construction, due to erosion concerns and the desire to make the trail universally accessible. For this reason, the inventory documents slopes 15% and greater. Generally speaking, slopes are only a concern in limited locations and will not have a significant impact on trail development.



Overall Existing Environmental Conditions Map

*Vegetation* - The vegetation along the Fishkill Creek includes a variety of native tree species including sycamore, maple, oak and ash. Numerous large specimen Sycamore trees were observed at several locations. Several species of invasive trees have colonized portions of the creek bank including Norway Maple and Alienanthus. Riparian zones are clearly identifiable and include a variety of shrubs, grasses, and wildflowers. The highest quality vegetated areas include the Fishkill Creek Estuary, Madam Brett Park and the Fishkill Gorge area.

**Refer to Appendix B for more detailed existing environmental conditions maps.**

The connection of community resources is one of the primary purposes for the development of the FCGHT. The project team documented the type and location of a variety of resources within and adjacent to the Fishkill Creek corridor in order to understand the linkages that should be made.

*Parks* - The FCGHT will link a number of existing public parks. This network of parks and connections is strong along the Hudson River and Fishkill Creek Estuary with smaller disconnected spaces emerging north and south of East Main Street including a small pocket park at the Wolcott Avenue Bridge and a small pocket park at the end of Herbert Street.

*Street Intersections* - Running parallel to the Fishkill Creek the FCGHT yields a surprisingly low number of crossing with existing city streets. In most cases, the condition of the intersection where the trail would need to cross a vehicular street is favorable.

The FCGHT will interact directly with the following existing streets: Dennings Avenue, Wolcott Avenue (Route 9D), Chruchill Street, East Main Street and Front Street.

*Bridges, Dams & Structures* - The FCGHT interacts with a number of high quality industrial, engineering and architectural infrastructure sites. These resources speak to the rich industrial history of the City of Beacon and offer some very unique opportunities to interact with history. Details of these resources can be found in the Historic Resources section below.

*Land Ownership* - The proposed FCGHT route interacts with 21 individual property owners which includes municipalities, public utilities, not-for-profit organizations and private landowners. Details on these trail impacted parcels can be found in the Trail Impacted Parcels section below.

As the vast majority of the FCGHT route is well suited for trail placement, there are a few locations where trail construction will be slightly more challenging. Although these areas are slightly constrained, trail construction within, around or along any these identified locations is not prohibitive. On the contrary, it is these locations that provide a series of opportunities to enhance the trail experience. With some simple and creative design solutions, these areas are easily navigable. The resource inventory identified eight (8) locations that will require special design attention as follows:

- Trail connection across Metro-North Beacon line between Denning's Point State Park and Madam Brett Park (under existing Metro-North Beacon Line bridge parellel to Metro-North Hudson Line tracks) ***The design of this element has been completed by Metro-North and construction was recently funded with a 2012 NYS Regional Economic Development Council Award grant.***
- Trail connection along Sucker Falls Raceway ruins and around historic railroad bridge abutment to established footpath at bend in Creek above Sucker Falls
- Trail connection through Madam Brett Park to Dutchess Junction site

- Sloped areas north and south of Wolcott Avenue (NYS Route 9D) bridge
- Trail connection behind Rothery File Co (Beacon Auto Salvage) building
- Trail connection through pinch point between Metro-North Beacon line and The Roundhouse/ Beacon Falls Dam infrastructure
- Trail connection through pinch point along Metro-North Beacon line behind Tallix Foundry complex
- Trail connection from Front Street to Fishkill Creek gorge footpath in vicinity of Groveville Mill

### *Viewpoints of Scenic Quality*

There are particular points along the proposed trail corridor that offer users high quality scenic views of various resources. These viewpoints reveal both the natural beauty and industrial heritage of the trail corridor, and most provide a combination of both. The plan highlights the following viewpoints of scenic quality:

- Hudson River at Long Dock Park / Klara Sauer Trail / Denning's Point Park
- Mt. Beacon from Denning's Point Park
- Fishkill Creek Estuary at Madam Brett Park
- Sucker Falls & RR Bridge Abutments at Madam Brett Park
- New York Rubber Factory Dam
- Beacon Falls and Dam from East Main Street Bridge and The Roundhouse
- Mt. Beacon from Metro-North Beacon Line just north of Tallix Foundry complex
- Crib Dam Ruin just north of Tallix Foundry complex
- Fishkill Creek at Bridge Street Bridge
- Groveville Mill Dam
- Fishkill Creek Gorge at Beacon / Fishkill Line

### *Historic Resources*

The Fishkill Creek corridor contains approximately fifty (50) resources of historic interest and significance that are visible from or close to the proposed trail route. These resources include five transportation-related resources, six dams or waterpower sites, fourteen industrial buildings or complexes, seven bridges or bridge sites, and additional resources noted below. The survey included three properties individually listed in the National Register of Historic Places (NR), one NR-eligible bridge, three industrial buildings determined eligible as contributing buildings within a potential NR historic district, and five districts or individual properties located within Beacon's Historic District and Landmark Overlay Zone (HDLO). These resources include:

#### Transportation

*Marine: Fishkill Landing (Long Dock Park) (Survey No. 2)*

*Railroad: Dutchess & Columbia/New York & New England Railroad Right-of-Way (Survey No. 3)*

*Wiccopee Junction Site (Survey No. 21)*

*Newburgh, Dutchess & Connecticut Railroad Station (Survey No. 33)*

*Highway: East Main Street "Dummy" Traffic Light (Survey No. 38)*

#### Dams/Power Generation

*Sucker Falls Dam (Survey No. 20) (HDLO)*

*Masonry/Earth Raceway Trench at Madam Brett Park (Survey No. 18)*

*New York Rubber Factory Dam (Survey No. 24)*

*Main Street Dam (Survey No. 39)*

*Carroll Electric Light Co. Dam and Power Plant Site (Survey No. 51, includes "Red Rocks" (Survey No. 52))*

*Groveville Mill Dam (Survey No. 62)*

**Industry/Manufacturing**

*National Biscuit Company (Nabisco) Beacon Carton and Printing Plant (Dia: Beacon Museum) (Survey No. 4)*  
*Denning's Point Brick Works (Survey Nos. 5, 6 and 8)*  
*Tioronda Hat Co. (Survey No. 13)*  
*New York Rubber Factory site (Survey No. 23)*  
*Rothery File Co. (Survey No. 30)*  
*Garret-Storm Anthracite Coal Silos & Office (Survey No. 31)*  
*1814 Schenck Cotton Mill/Matteawan Co./Carroll Hat Co. et al. (1 East Main Street) (Survey No. 34)*  
*Swift Machine Shop ("The Roundhouse") (Survey No. 36)*  
*Matteawan Manufacturing Company (Survey No. 40)*  
*Schenck Machine Company (Survey No. 42)*  
*Beacon Lumber & Coal Co. Yard Site (Survey No. 45)*  
*Green Economizer Co. (Tallix Foundry) (Survey No. 46)*  
*Central Hudson Gas & Electric Liberty Street Substation (Survey No. 50)*  
*Rock (shale/slate) Quarry (Survey No. 56)*  
*Groveville Carpet Mill (Survey No. 59 (worker housing), Survey No. 60. (mill complex) (HDLO)*

**Bridge Engineering**

*Denning's Avenue Bridge (Survey No. 6)*  
*Metro-North Beacon Line Railroad Bridge (Survey No. 7)*  
*Denning's Point Brick Works clay pit railroad tunnel (Survey No. 8)*  
*Tioronda Bridge (Survey No. 15) (NR 1967, HDLO)*  
*Wolcott Avenue Bridge (Survey No. 26) (NR-eligible)*  
*Former Churchill Street Bridge Abutments (Survey No. 32a)*  
*Bridge Street Bridge (Survey No. 57)*

**Historic Districts and Properties**

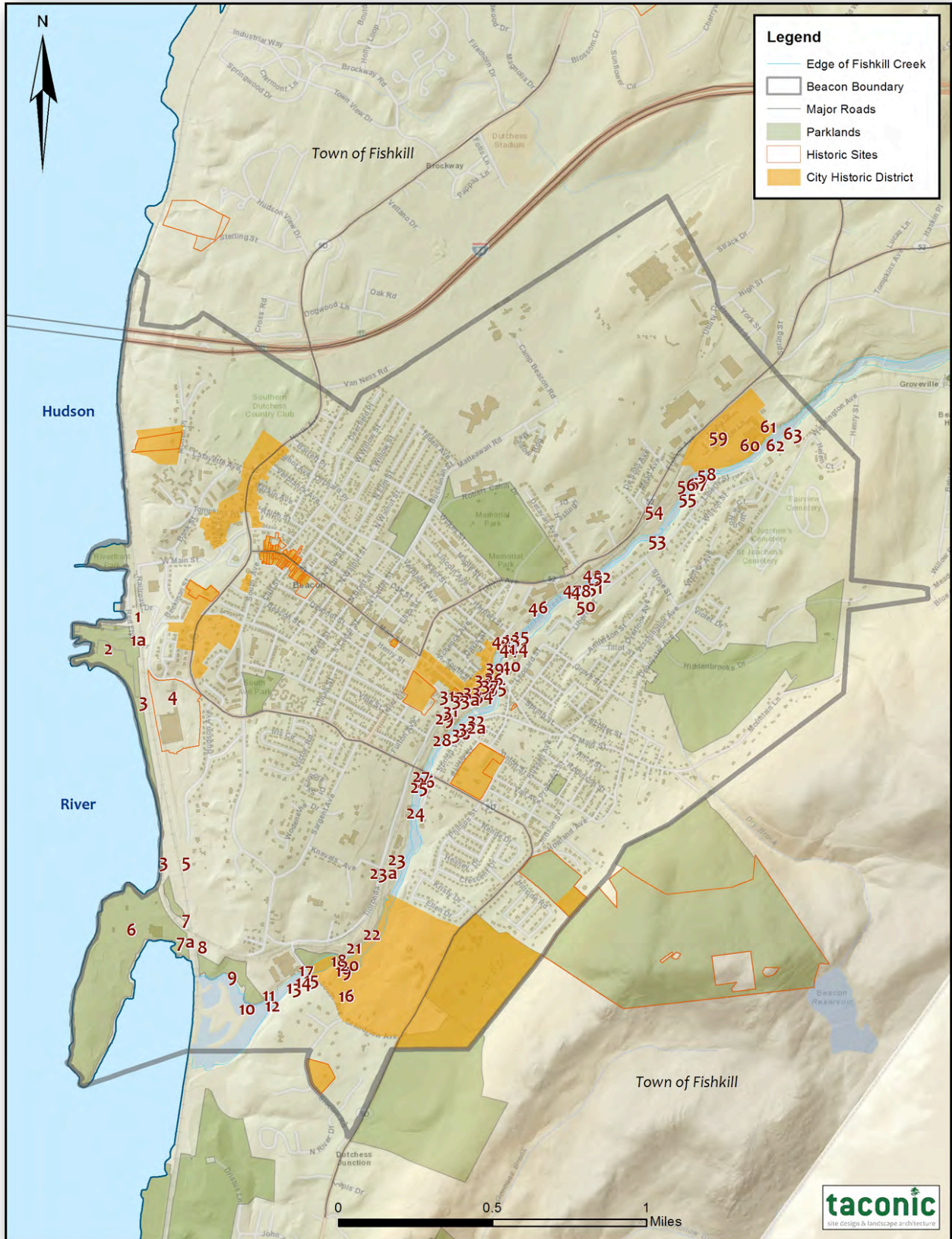
*National Register of Historic Places-Listed*  
*The National Biscuit Company (Dia:Beacon, Survey No. 4, NR 2003)*  
*Howland Cultural Center (Survey No. 31a)*  
*Tioronda Bridge (Survey No. 15) (NR 1967, HDLO)*  
*National Register-Eligible*  
*Wolcott Avenue (Rte 9D) Bridge (Survey No. 26)*  
*1814 Schenck Cotton Mill (Survey No. 34), the attached 1912 Carroll Hat Co. Mill (Survey No. 34), and the Swift Machine Shop ("The Roundhouse"), Survey No. 36), all eligible as contributing elements in a larger potential National Register historic district.*

**Beacon Historic District Landmark Overlay Zone**

*Tioronda Bridge (Survey No. 15)*  
*Sucker Falls Dam (Survey No. 19)*  
*Groveville Carpet Mill (Survey Nos. 59, 60)*  
*Tioronda Estate (Survey No. 16)*  
*Main Street Local Historic District (Survey No. 33)*

**Refer to Appendix C for more detailed resource inventory maps, full descriptions of inventoried resources and current photographs of historic resources.**





Overall Resource Inventory Map

## TRAIL DESIGN RECOMMENDATIONS

Contained within the City of Beacon, the **Fishkill Creek Greenway & Heritage Trail** will be a continuous trail that will connect the Hudson River and City of Beacon waterfront with the Fishkill Creek, the eastern end of Main Street and beyond to the Town of Fishkill. At 4.3 miles in length from the Beacon Train Station to the Town of Fishkill boundary, the proposed trail will provide direct, uninterrupted creek access to residents and will offer a number of opportunities for active and passive uses. The proposed trail traverses several distinct and very different sections of Beacon and directly interacts with significant historic resources and scenic views that speak to the story of Beacon.

The FCGHT has been placed to fit within the existing landscape conditions with a light footprint and is intended to be active and serve uses in all four seasons. The trail has been designed to accommodate foot traffic primarily, although some sections may accommodate other uses. With the efforts of the Beacon Loop Trail, a concurrent project for the development of a city-wide pedestrian and bicycle trail, the FCGHT intends to serve a more passive purpose. The trail will also provide opportunities for uses beyond the typical active sports including Public Education, Historic Interpretation, Access to Water (Fishing, Wading, Kyacking), Access to Business, and Special Events (rallies, celebrations, etc.).

An important consideration throughout the trail revolves around universal access or ADA accessibility. Based on the analysis of environmental conditions along the trail route, universal access to the vast majority of the trail is achievable. However, there are some very challenging and/or remote areas that may not be suitable for handicap access including the areas surrounding the historic railroad abutment at Sucker Falls, the connection trail from Madam Brett Park to Dutchess Junction, the connection up to Wolcott Avenue bridge and the existing footpath along the Fishkill Creek gorge. From a general planning and design perspective, accessibility is most important at parking areas and trailheads radiating outward. All future trail development should refer to and incorporate latest Federal, State and Local ADA design criteria.

It is important to recognize the over-arching themes that have guided the design of the greenway trail. These guiding principles are common sense planning ideas that provides the framework for the trail to be meaningful and self-sustaining. These guiding principles include:

***Make Connections*** - Ensure that the trail physically connects people to the Creek and their local heritage by intersecting the trail with the maximum number of historic resources. Locate the trail as close to the creek edge as possible.

***Enhance Economic Benefit*** - Harness the economic benefit potential by providing a rich and interesting alternative route for visitors using mass transit to access Lower Main Street and other recreational and cultural assets including the future Mount Beacon Incline Railway.

***Create Community Support and Provide Accessibility***- Create and nurture partnerships to build on volunteer and community support activities revolving around the trail. Design the trail to provide accessibility to outdoor enjoyment and education for users of all abilities.

***Provide Environmental Protection and Sustainability*** - Do no harm. Develop within areas that are already influenced by human activity including the use of existing trails where possible. Use natural infiltration and other low impact development practices for stormwater management.

***Provide High Quality Infrastructure*** - Strive to construct high quality trail facilities that are affordable, safe, easy to maintain, and will perform over time.

**Minimize impact and Reestablish Natural Conditions-** Align the trail with the existing grade as much as possible to minimize disturbance areas. Vary the buffer width along the trail by increasing the setback in non-critical areas along the creek bank to offset necessary trail development in close proximity to sensitive areas. Preserve mature trees and ensure stability of creek bank by limiting major disturbance within 10 feet of the top of creek bank to the maximum extent possible. Mitigate construction impacts by strategically including tree plantings and naturalization areas.

Guiding principles will not apply uniformly to every section of trail. The proposed trail route does include a few short sections where trail development options are constrained and/or the preferred trail alignment is very close to the top of the creek bank. While this does not limit the viability of trail development, employment of the above principles will ensure the long term stability of the trail in close proximity to the creek bank.

### Proposed Trail Route

The FCGHT has been segmented into 5 distinct sections to more easily and clearly describe the trail and its proposed features. These sections begin and end at logical points in the context of existing environmental conditions and trail implementation. The sections are as follows:



#### SECTION 1

**KLARA SAUER TRAIL**  
(Beacon Train Station to  
Denning's Point Park)

#### SECTION 2

**ESTUARY AND CREEK TRAIL**  
(Denning's Point Park to  
Knevels Avenue Crossing)

#### SECTION 3

**CITY CENTER**  
(Knevels Avenue Crossing to  
Herbert Street Park)

#### SECTION 4

**RAIL WITH TRAIL**  
(Herbert Street Park to  
Bridge Street Bridge)

#### SECTION 5

**MILL AND GORGE**  
(Bridge Street Bridge to  
Town of Fishkill Boundary)



Proposed Overall Trail Map

### **Klara Sauer Trail Section**

The FCGHT begins at the existing trailhead kiosk at the Beacon Train Station, where users can obtain information regarding all trails and routes within and through Beacon. From the train station, the FCGHT turns south on the Klara Sauer Trail. The Klara Sauer Trail is an existing 1-mile multi-use trail owned and operated by Scenic Hudson, that runs south along the eastern edge of the Hudson River. Within this 1-mile stretch, the FCGHT connects with Scenic Hudson's Long Dock Park and passes below Dia:Beacon. With sweeping views of the Hudson River, the Klara Sauer Trail makes its way to Denning's Point State Park, a large 64-acre park operated by the Hudson Highlands State Park system. At this point, the Klara Sauer Trail ends and the FCGHT crosses easterly over the Dennings Avenue Bridge.

As a secondary starting point, the FCGHT also begins at the Dennings Avenue parking area and trailhead at the south end of Dennings Avenue. Heading south along Dennings Avenue (the existing access driveway to Beacon Institute of Rivers and Estuaries, the trail meets at the eastern side of the Dennings Avenue Bridge. To this point, all trail infrastructure is existing and open to the public.

**See Proposed Trail Map (Section 1 - Klara Sauer Trail) below.**

### **Estuary and Creek Trail Section**

Beginning at the eastern side of the Dennings Avenue Bridge, the FCGHT turns southerly again along a new section of trail to the Beacon Line bridge. This new trail will hug the east side of the existing tree edge that separates the railroad tracks and landfill, until just before the Beacon Line bridge abutment. The trail will then proceed downslope to the bottom of the bridge abutment, under the Beacon Line bridge within a short 'contained' section designed by Metro-North, to the existing gravel access road just south of the Beacon Line bridge

Once on the existing gravel access road, the FCGHT enters Scenic Hudson's Madam Brett Park with sweeping views of the Fishkill Creek Estuary and Hudson Highlands beyond. The trail continues south along the existing Madam Brett Park main trail turning northeast along the north bank of the Fishkill Creek. Continuing across the existing elevated boardwalk, the FCGHT intersects South Avenue at the north side of the Tioronda bridge. The trail crosses South Avenue into the eastern portion of Madam Brett Park, where there is an existing parking area and trailhead. Just beyond the parking area, the trail splits with the main (accessible) FCGHT trail turning left and gently rising across the slope to the former Dutchess Junction intersection. The secondary FCGHT continues straight along the existing Madam Brett Park trail to the existing viewing platform at the Sucker Falls Raceway outlet. It is at this point that the trail transitions across the raceway outlet and onto the top of the existing concrete raceway wall as an elevated boardwalk. This new boardwalk will continue to the historic Tioronda Railroad Bridge abutment directly adjacent to the historic dam at Sucker Falls. The boardwalk will then cross over the raceway channel and connect with an existing footpath continuing around the creek bend and up the steep slope where it reconnects with the main (accessible) FCGHT. The reconnected FCGHT then continues northeast along the top of the creek bank. This section of the FCGHT ends in the vicinity of the existing Beacon Line vehicle crossing across from Knevels Avenue, which will serve as an important emergency access connection.

**See Proposed Trail Map (Section 2 - Estuary and Creek Trail) and Sucker Falls Raceway Boardwalk Concept below.**

**City Center Section**

Continuing northeast along the top of the creek bank, the FCGHT makes its way to the base of the Wolcott Avenue Bridge. Through this short section, the trail intersects with the historic NY Rubber Co. factory dam and the calm section of creek behind it. At the base of the bridge, the trail turns northwest and continues under Wolcott Avenue parallel to the Beacon Line railroad tracks similar to the beginning of Section 2 and then back to the edge of the creek on the north side of the bridge. This intersection with Wolcott Avenue is an important connection point to other trails, however, the FCGHT sits well below the elevation of Wolcott Avenue and the pocket park that it includes. To make this connection, the FCGHT proposes a set of simple metal outdoor stairs similar to those in Mt. Beacon Park that would float just above and ascend the slope between the main FCGHT and Wolcott Avenue.

The FCGHT continues northeast along the creek bank to the historic Rothery File Co. building. The concept at this location is to attach the trail directly to the southeast side of the existing structure as an elevated boardwalk similar to the elevated boardwalk at Madam Brett Park. This new elevated boardwalk will connect to an existing social trail on the northeast corner of the Rothery File Co. building. The trail continues along top of the creek bank until it intersects with the north end of the Churchill Street Bridge. The trail crosses Churchill Street and continues along the creek bank to East Main Street. This section of trail between Churchill Street and East Main Street has been designed into the recently approved 1 East Main Street development and will be constructed in association with the larger development construction.

At East Main Street, the FCGHT turns right onto the existing sidewalk and across the East Main Street Bridge. The trail then crosses East Main Street on the south side of the bridge and turns left back across the East Main Street bridge to take advantage of the impressive scenic view of Beacon Falls. The trail continues along the existing sidewalk in front of The Roundhouse to Beacon Line railroad tracks, just south of Main Street. At this point, the trail turn right and continues along the creek between the railroad tracks and The Roundhouse outdoor terrace to the existing public trail and viewing platforms within the Herbert Street pocket park. Within the short section of trail, the trail interacts with the historic Beacon Falls dam raceway infrastructure and the trail will require a similar form of elevated boardwalk as proposed at the Sucker Falls raceway. The FCGHT continues along the existing wood chip path to the north side of the Herbert Street pocket park.

**See Proposed Trail Map (Section 3 - City Center) below.**

**Rail with Trail Section**

From the end of the existing trail, the FCGHT continues northeast along the top of the creek bank between the railroad tracks and the edge of the creek. The trail runs parallel to the Beacon Line railroad tracks passing behind the historic Tallix Foundry industrial complex and other Route 52 commercial sites until it reaches Front Street just south of the Groveville Mill industrial complex.

Within this section of FCGHT, two (2) important elements are proposed to carry the trail. First, there is an existing section of railroad tracks that directly contacts the top of the creek bank, which this Master Plan refers to as the 'Pinch Point'. This section of trail is approximately 200' long. With the use of helical piles, the concept to carry the trail through the 'Pinch Point' is an elevated boardwalk that will float above the steepest portions of the existing grade. Second, just north of the 'Pinch Point' are the ruins of the historic Carroll Electric Company Dam and Power Plant Site. At this

location, an elevated viewing platform is proposed that will reach out over a section of steep slope and provide a bird's eye vantage point to view and interpret this stunning historic relic.

Trail construction within this section of trail will need to address the location of any railroad related infrastructure and be sensitive to those elements should they exist.

**See Proposed Trail Map (Section 4 - Rail with Trail), Pinch Point Boardwalk and Crib Dam Overlook Concept below.**

### **Mill and Gorge Section**

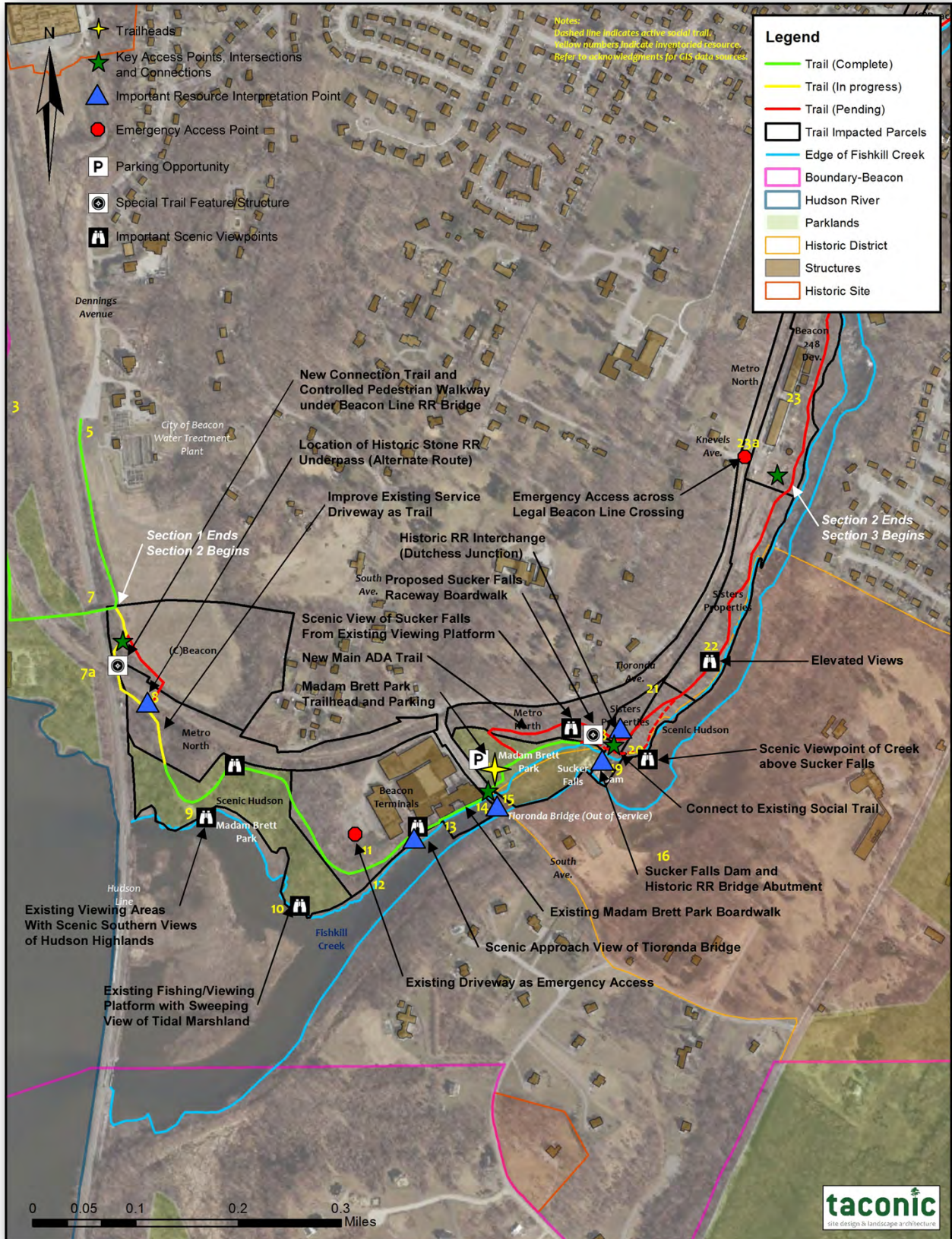
This final section of the FCGHT begins at the Bridge Street Bridge, a brilliant example of a 19th century bridge engineering with very scenic view of the Fishkill Creek. The trail continues northeast along the top of the creek bank to the Grovesville Mill industrial complex. At this point, there are two route options, First, the trail could turn right and extend out to Front Street, running around the mill buildings and reconnect with the creek at the mill dam. Second and preferably, the FCGHT would be incorporated into the redevelopment of this site and continue through the mill complex to the north side of the mill dam. From the mill dam, the trail connect with an existing footpath that climbs to the top of the Fishkill Creek gorge to the Town of Fishkill town line.

**See Proposed Trail Map (Section 5 - Mill and Gorge) below.**

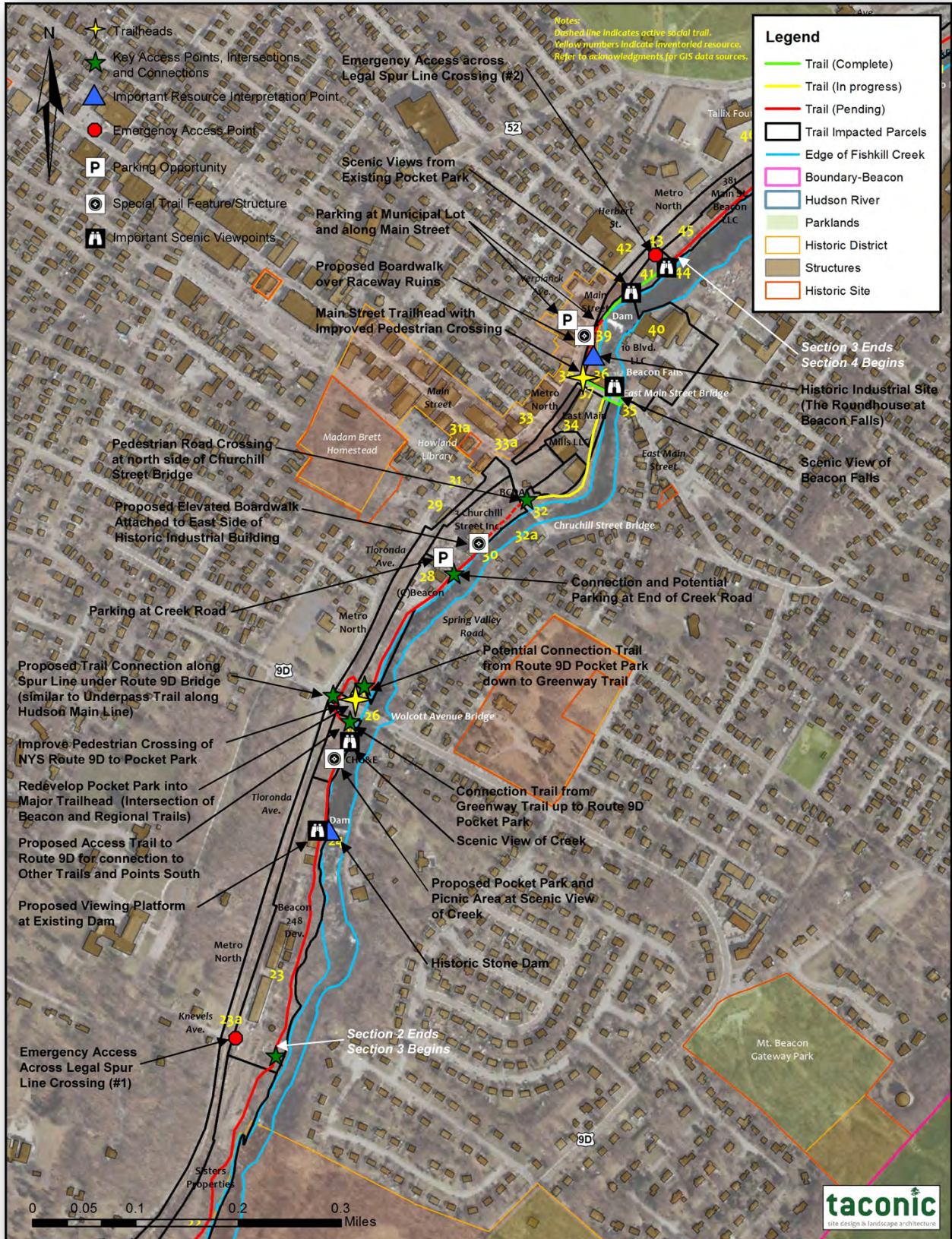


Proposed Trail Map (Section 1 - Klara Sauer Trail)



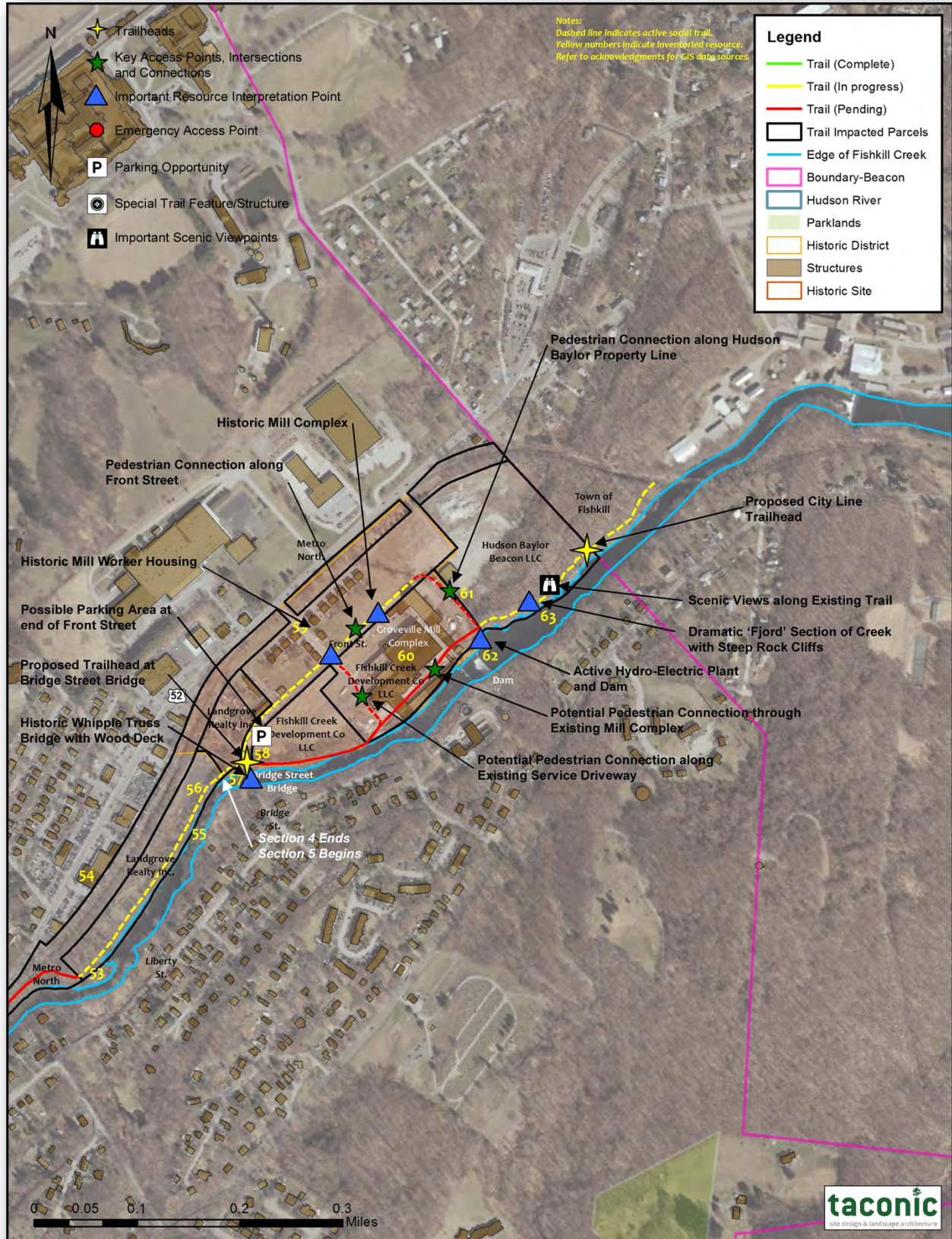


Proposed Trail Map (Section 2 - Estuary & Creek Trail)



Proposed Trail Map (Section 3 - City Center)





Proposed Trail Map (Section 5 - Mill and Gorge)

### *Key Access Points, Intersections and Connections*

The FCGHT may be reached by train, bus, car, bicycle, and on foot, and will, in turn, connect with these. Potential points for emergency access along the trail corridor have also been noted.

Public Transportation - Metro-North Railroad Hudson Line (Beacon Station), Dutchess Loop Bus, and Beacon Loop Bus (Route G).

Existing Public Parking Areas – Public parking is currently available at the following locations along the proposed trail corridor: Beacon Train Station, Long Dock Park, Madam Brett Park, Tioronda Avenue (at Knevels Avenue), Tioronda Avenue (north of Wolcott Avenue), Main Street and surrounds, Verplank Avenue parking lot.

Proposed Parking Areas – Parking opportunities exist at the following locations: Churchill Street (1 East Main Street development), Front Street (both north by self-storage facility and south by Bridge Street bridge)

Existing Trailheads – Trailheads exist at the following locations: Beacon Train Station, Long Dock Park, Dennings Avenue, Madam Brett Park

Proposed Trailheads - Trailheads are proposed at the following locations: Wolcott Avenue Park, Main Street, Herbert Street Park, Front Street, Beacon/Fishkill municipal line

Road Intersections (Trail Crossings) – The proposed trail will intersect with the following roads: Dennings Avenue, South Avenue, poss. Wolcott Avenue, Churchill Street, East Main Street, Front Street

Bridge Intersections - The proposed trail will intersect with the following bridges: Dennings Avenue Bridge, Beacon Line RR Bridge, Tioronda Bridge (Out of Service), Wolcott Avenue Bridge, Churchill Street Bridge, East Main Street Bridge, Bridge Street Bridge (Out of Service)

Connections with Existing Trails – The proposed trail will connect with other existing trails at the following locations: Long Dock Park, Denning's Point State Park, the Beacon Loop Trail, the Trail of Two Cities, Wolcott Avenue sidewalk (Mt. Beacon Park Trails, Hudson Highlands State Park, Fishkill Ridge Trails, University Settlement Camp Trails, and other points south)

Connections with Proposed Trails - The proposed trail will potentially connect with the following trails under development: Extension of this Fishkill Creek Greenway & Heritage Trail (into Town of Fishkill), Hudson Fjord Hike/Bike Trail (Wolcott Avenue to points south), Hudson River Trail (from Beacon Train Station to points north along the Hudson River)

Existing Emergency Access Points - Emergency access points exist at the following locations: Metro North parking lot (Red Flynn Drive), Long Dock Park parking lot (Red Flynn Drive), City Of Beacon Sewage Treatment Plant parking lot (Denning's Avenue), Madam Brett Park (South Avenue), Wolcott Ave. (Tioronda Avenue), Beacon Highway Garage (Creek Road), Churchill Street, Main Street (Herbert Street), East Main Street

Proposed Emergency Access Points - Emergency access points should be established at the following locations: Proposed developments along Tioronda Avenue (Knevels Avenue / Tioronda

Avenue), Tallix Foundry (Fishkill Ave.), STS Automotive (Fishkill Avenue), Cervone (Fishkill Avenue), Healy Bros. (Fishkill Avenue), Bridge Street, Groveville Apartments (Mill Street / Front Street), and Groveville Mill (Mill Street / Front Street).

### *Trail Impacted Parcels and Status*

Understanding the individual ownership of land is very important to the development of a linear greenway trail. The FCGHT corridor includes both publicly and privately owned parcels. The committee has identified all trail impacted parcels including publicly-owned land, easements that currently allow for use of private land for public access and use, and privately owned land, which would require some form of legal acquisition or permission before a trail could be constructed.

The trail impacted parcels are:

| <u>Property Alias</u>   | <u>Name of Owner</u>                | <u>Parcel Address</u> | <u>Full Tax Parcel ID Number</u> | <u>Section *</u> |
|-------------------------|-------------------------------------|-----------------------|----------------------------------|------------------|
| Landfill                | City of Beacon                      | 196 Dennings Ave      | 130200-5954-15-660374-0000       | 2                |
| Landfill                | City of Beacon                      | 200 Dennings Ave      | 130200-5954-15-679329-0000       | 2                |
| Metro-North Hudson Line | Conrail                             | 33 Railroad Dr        | 130200-5954-33-549777-0000       | 2                |
| MTA Spur Line           | Metro-North Commuter RR Co          | 517 Main St           | 130200-6054-37-096715-0000       | 2                |
| Madam Brett Park        | Scenic Hudson Land Trust Inc        | South Ave Rear        | 130200-5954-15-705263-0000       | 2                |
| Beacon Terminals        | Beacon Terminal Associates          | 555 South Ave         | 130200-5954-16-751258-0000       | 2                |
| Madam Brett Park        | Scenic Hudson Land Trust Inc        | 560 South Ave         | 130200-5954-16-830270-0000       | 2                |
| MTA                     | Metro-North Commuter RR Co          | 517 Main St           | 130200-6054-37-096715-0000       | 2                |
| Sisters Property        | Sisters Properties LLC              | Tioronda Ave Rear     | 130200-5954-16-894286-0000       | 2                |
| Scenic Hudson           | Scenic Hudson Land Trust Inc.       | Tioronda Ave          | 130200-5954-16-910293-0000       | 2                |
| Sisters Property        | Sisters Properties LLC              | Tioronda Ave          | 130200-5954-16-951357-0000       | 2                |
| 248 Tioronda            | Beacon 248 Development LLC          | Tioronda Ave          | 130200-5954-16-993482-0000       | 3                |
| Central Hudson          | C H G & E Corp.                     | 465 Wolcott Ave       | 130200-6054-45-012574-0000       | 3                |
| Highway Dept            | City of Beacon                      | 23-28 Creek Dr        | 130200-6054-37-037625-0000       | 3                |
| Salvage Yard            | 3 Churchill Street Inc.             | 9-11 Creek Dr         | 130200-6054-37-066670-0000       | 3                |
| BCDA                    | Beacon Community Development Agency | Churchill St          | 130200-6054-37-113702-0000       | 3                |
| 1 East Main Street      | East Main Mills LLC                 | E Main St             | 130200-6054-38-131711-0000       | 3                |
| 1 East Main Street      | East Main Mills LLC                 | E 7 Main St           | 130200-6054-38-140733-0000       | 3                |
| 1 East Main Street      | East Main Mills LLC                 | E 1 Main St           | 130200-6054-38-143746-0000       | 3                |
| The Roundhouse          | 10 Boulevard LLC                    | E 8 Main St           | 130200-6054-30-168772-0000       | 3                |
| MTA                     | Metro-North Commuter RR Co.         | 517 Main St           | 130200-6054-37-096715-0000       | 3                |
| Lumber Yard             | 581 Main St Beacon LLC              | 581 Main St           | 130200-6054-30-204843-0000       | 4                |
| Lumber Yard             | 581 Main St Beacon LLC              | 581 Main St           | 130200-6054-30-236870-0000       | 4                |
| MTA                     | Metro-North Commuter RR Co.         | 517 Main St           | 130200-6054-37-096715-0000       | 4                |
| Central Hudson          | C H G & E Corp.                     | 241 Fishkill Ave Rear | 130200-6054-23-323928-0000       | 4                |
| MTA                     | Metro-North Commuter RR Co.         | 517 Main St           | 130200-6054-37-096715-0000       | 4                |
| Gravel Mine             | Landgrove Realty Inc.               | 365 Fishkill Ave Rear | 130200-6055-80-459057-0000       | 4                |
| Junk Yard               | Landgrove Realty Inc.               | 71 Front St           | 130200-6055-04-502133-0000       | 5                |
| Groveville Mill         | Fishkill Creek Dev Co LLC           | 51 Front Street       | 130200-6055-04-535128-0000       | 5                |
| Groveville Mill         | Fishkill Creek Dev Co LLC           | 3-39 Front St.        | 130200-6055-04-590165-0000       | 5                |
| Hudson Baylor           | Hudson Baylor Beacon LLC            | 508 Fishkill Ave      | 130200-6055-04-639223-0000       | 5                |

### *Trail Impacted Parcels Table*

*The FCGHT within Section 1 utilizes existing trails currently in legal use by the public. It is assumed that all necessary agreements are in place to allow continued public use of these trails as the FCGHT. Therefore,*

*parcels within Section 1 have been purposefully excluded from the above list as there will be no impacts to existing parcels within Section 1.*

**Refer to the *Proposed Trail Maps* above for trail impacted parcel locations along the proposed trail route.**

### *Proposed Trail Amenities*

In order to accommodate the needs of trail users, certain facilities are needed to support the trail's use. Trailheads provide the largest amount of amenities to trail users and are recognizable access points to the trail. They are essentially pocket parks along the trail that may include parking areas, shelters, kiosks, benches, trash receptacles, bicycle racks, trail signage, and landscaping.

Major trailhead opportunities exist at the Klara Sauer Trail Trailhead at Beacon Train Station, Denning's Point State Park Trailhead at Dennings Avenue, Madam Brett Park at South Avenue, Wolcott Avenue pocket park, Intersection of Main Street and East Main Street or Herbert Street pocket park, and Bridge Street Bridge at Front Street.

Below is a list of key locations of existing and proposed trail amenities along the proposed FCGHT. This list is intended to provide a summary of structural elements envisioned along the trail route.

**Bolded items** are further studied in the Proposed Structures section. Key trail amenities include:

- Existing trailhead kiosks at Beacon Train Station, Long Dock Park and Denning's Point State Park
- New information kiosk along Klara Sauer Trail
- New connection trail (fence enclosure and boardwalk) at Metro-North Beacon line overpass (Klara Sauer Trail to Madam Brett Park connection) – in development
- Existing fishing/viewing platform at Madam Brett Park
- Existing connection boardwalk at Madam Brett Park (south of Tioronda Bridge)
- **New boardwalk at Sucker Falls raceway (See Sucker Falls Raceway Boardwalk Concept below)**
- New viewing platform at historic New York Rubber factory dam
- New information kiosk at new creek edge picnic area (south of Wolcott Avenue bridge)
- New connection stairway to Wolcott Avenue elevation (south side preferred)
- New trailhead kiosk at Wolcott Avenue pocket park
- New boardwalk along south side of Beacon Salvage building (similar to Madam Brett Park)
- New information kiosk at new Churchill Street picnic area (north side of bridge)
- New trailhead kiosk at the intersection of Main Street and E. Main Street
- New boardwalk around/over Beacon Falls raceway (along Metro-North Beacon line between The Roundhouse and Herbert Street pocket park trail)
- Existing viewing/fishing platforms at Herbert Street pocket park
- New information kiosk at Herbert Street pocket park
- **New boardwalk at pinch point between Metro-North Beacon line and creek bank (See Pinch Point Boardwalk Concept below)**
- New small footbridge over drainage ditch
- **New viewing platform at timber crib dam (See Crib Dam Overlook Concept Design below)**
- New secondary footpath trail down to "red rocks" outcrop at creek edge
- New trailhead kiosk at north side of Bridge Street bridge
- New viewing platform at Groveville Mill dam
- New viewing platform and picnic area at Fishkill Creek gorge (north of Groveville Mill)
- New trailhead kiosk at Beacon/Fishkill boundary

### *Proposed Structures*

To more clearly identify main trail connection points and interpretive areas, the FCGHT should include some basic structures. These structures will act as a data depository for both permanent and changing information about the trail. And with an interesting architectural design and use of common materials, they can help the trail establish a unique identity and maintain a cohesiveness of design across the distinct trail sections. Structures for the FCGHT shall consist of 4 major elements: Trailhead Kiosks, Information Kiosks, Boardwalks and Viewing Platforms, and Rehabilitated Structures

*Trailhead Kiosks* - As part of this master plan, a conceptual trailhead kiosk has been developed as a starting point for the development of this important architectural feature. As the FCGHT is an urban trail, this simple yet modern kiosk design speaks to that urban environment. The kiosk basically creates an 8' hollow cube with four pillars supporting either a solid or slated roof. Depending on the kiosks location, ideas of sustainability and green technology can be incorporated to dramatic affect. For example, the basic kiosk design could easily support a green roof for stormwater management or solar panels for electric supply for use by the kiosk for interactive signage, charging stations, etc.



*FCGHT Trailhead Kiosk Concept*



*FCGHT Trailhead Kiosk Concept*



*Information Kiosks* - Utilizing the same materials and basic design character of the larger trailhead kiosk, a smaller complimentary kiosk should be incorporated into the overall trail route. This smaller kiosk is particularly suited to display interpretive signage at important resource interpretation points and to display information such as trail rules/policies and sponsorships at non-trailhead connection points.



*FCGHT Information Kiosk Concept*



*Other Kiosk Examples*

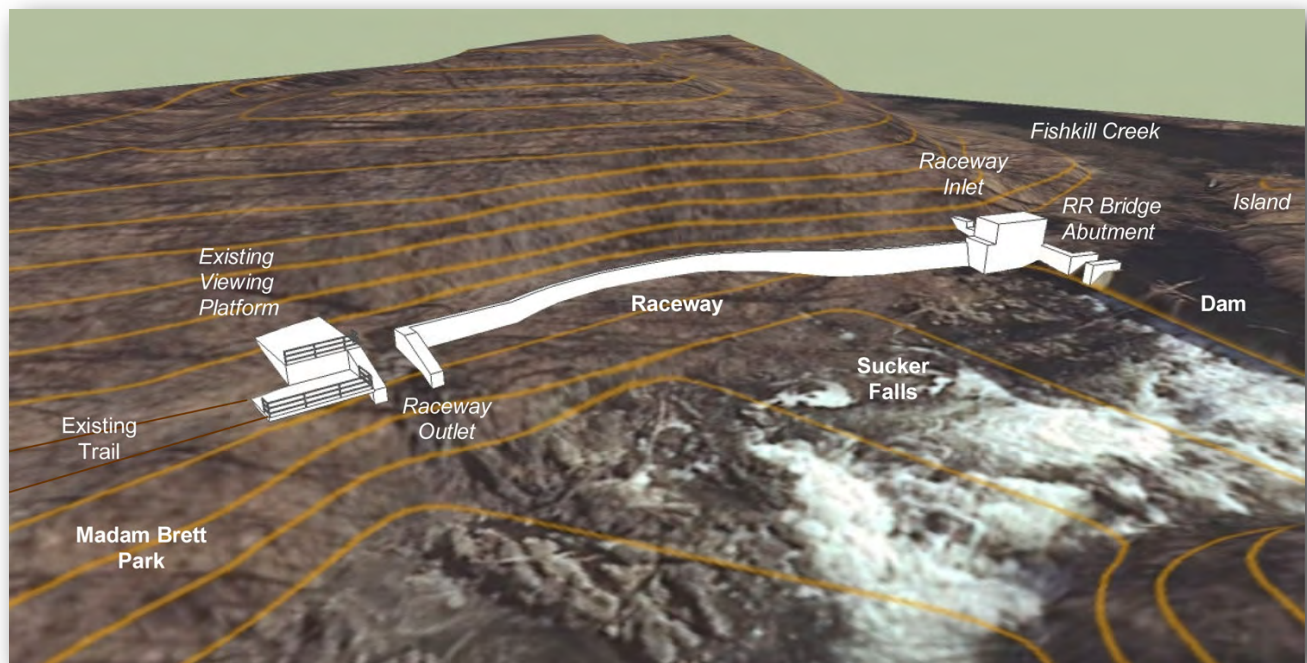
### *Proposed Boardwalks and Viewing Platforms*

Some areas along the FCGHT corridor will require an elevated trail treatment that will allow the trail to traverse some constrained areas and minimize impact to sensitive slopes. Three highlighted where the use of an elevated boardwalk or viewing platform is necessary or would allow for unparalleled access to a particular significant resource include:

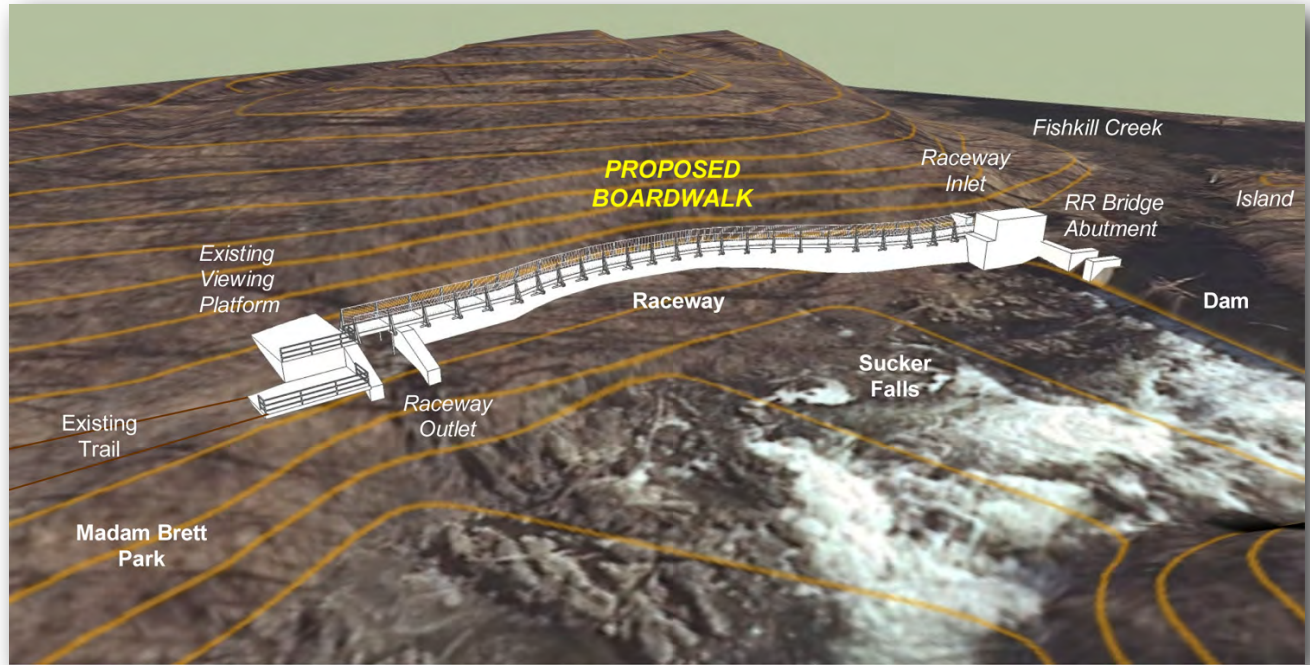
**Sucker Falls Raceway Boardwalk** – Traversing the historic mill raceway infrastructure at Sucker Falls provides a unique opportunity for the FCGHT to safely experience one of the more dramatic waterfalls and one of the oldest dam sites in the Hudson Valley. Currently the public trail ends at an existing viewing platform built around the raceway outlet. Envisioned is an elevated boardwalk that would follow the top of the existing masonry raceway wall from the existing viewing platform to the creek bank adjacent to the historic railroad bridge abutment. Using the raceway wall as the boardwalks foundation, a modular truss system could easily be centered along the raceway wall cantilevering equally over each side with connecting decking and railings. The boardwalk would be approximately 200' long and constructed with a combination of metal and wood using a modular method of construction. As this location is inaccessible to most mechanical equipment in its current condition, placement of the boardwalk structure and finishes as proposed could be easily completed without the use of heavy machinery.



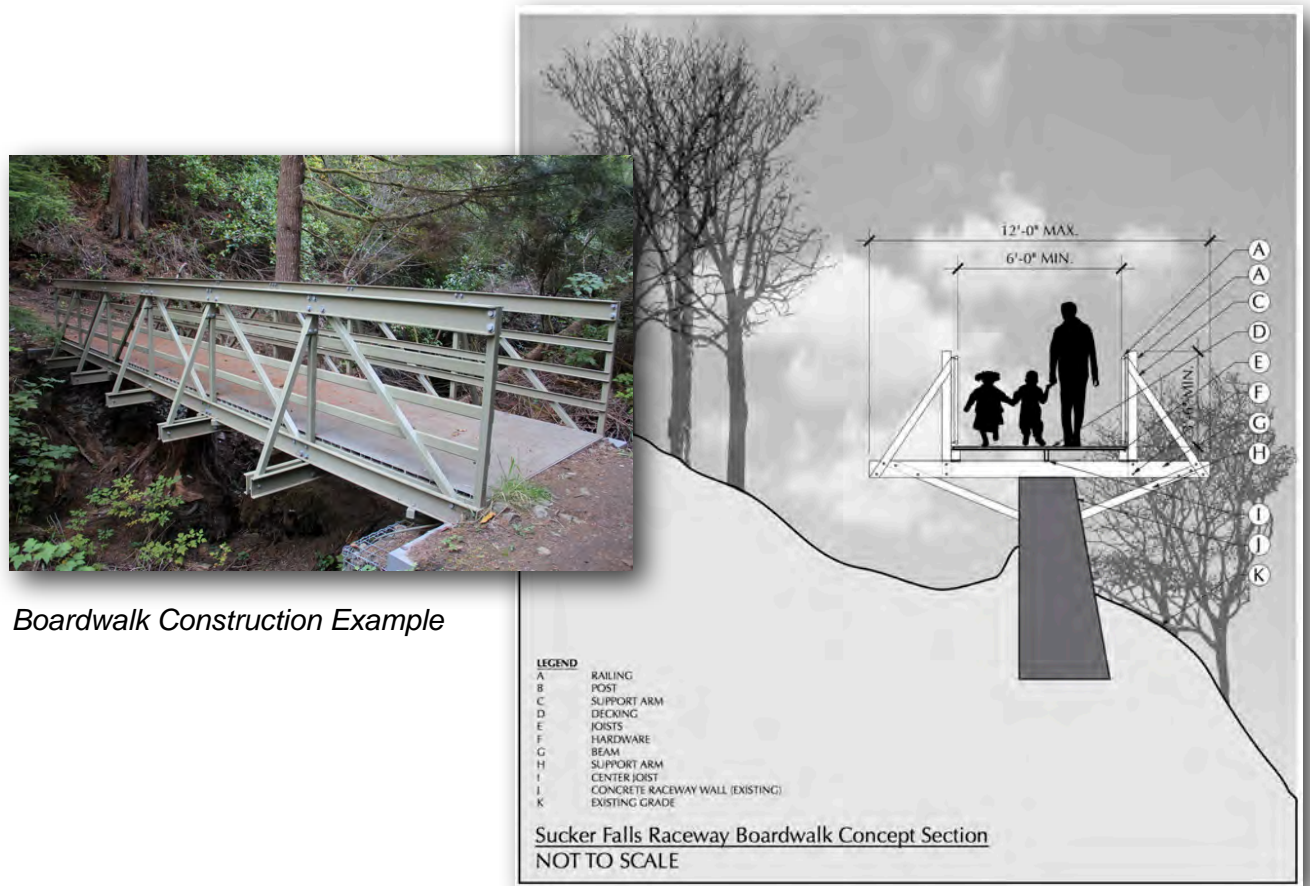
View of Sucker Falls from Existing Viewing Platform



*Sucker Falls Raceway Existing Conditions*



*Sucker Falls Raceway Boardwalk Concept*



*Boardwalk Construction Example*

**Sucker Falls Raceway Boardwalk Concept Section**  
NOT TO SCALE

*Sucker Falls Raceway Boardwalk Concept Section*



*Existing Conditions View along Sucker Falls Raceway Wall (looking north)*



*Proposed View of Sucker Falls Raceway Boardwalk (looking north)*



*Existing Conditions View along Sucker Falls Raceway (looking south)*



*Proposed View of Sucker Falls Raceway Boardwalk (looking south)*

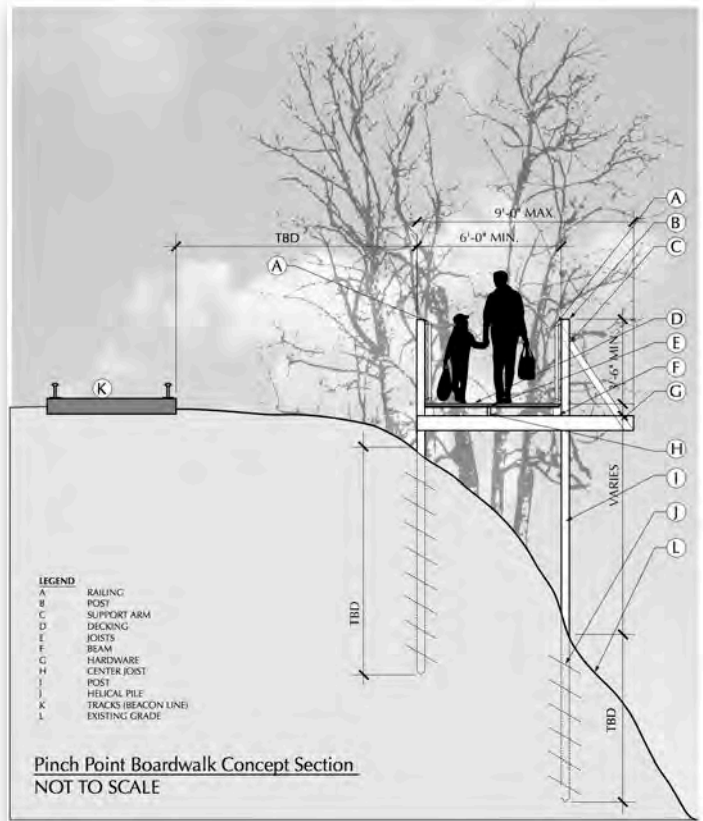
**Pinch Point Boardwalk Concept** - Another important point along the FCGHT that will likely require a connecting structure is a small 200' section behind the Tallix Foundry complex, which the plan refers to as the Pinch Point. With a little planning and creative design, this section of trail corridor that appears difficult to traverse becomes easily negotiable with the use of an elevated boardwalk.



*Birds-Eye View of Pinch Point Boardwalk Concept*

With a similar modular truss design as the Sucker Falls Raceway Boardwalk, this elevated boardwalk that would be located approximately 10' from the railroad tracks would be approximately 6' wide and protected with safety railings. The boardwalk would be set level or slightly below the elevation of the railroad tracks and ride above the existing grade. Foundations would be provided in the slope with the use of helical piles. The boardwalk would be constructed of the same combination of metal and wood using a modular method of construction. This location is accessible with the type and size of mechanical equipment that would be necessary to install the foundation piles.

*It is important to note that the above is a concept only and any boardwalk would need to be designed for specific site conditions.*



*Pinch Point Boardwalk Concept Section*

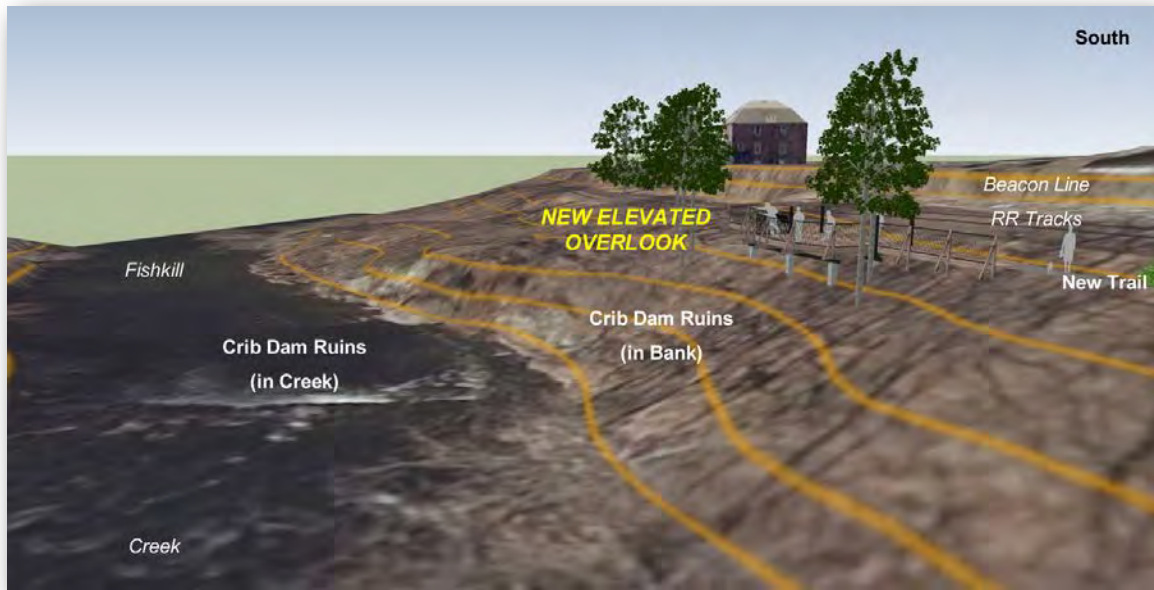


*Existing Conditions View at Pinch Point (looking north)*

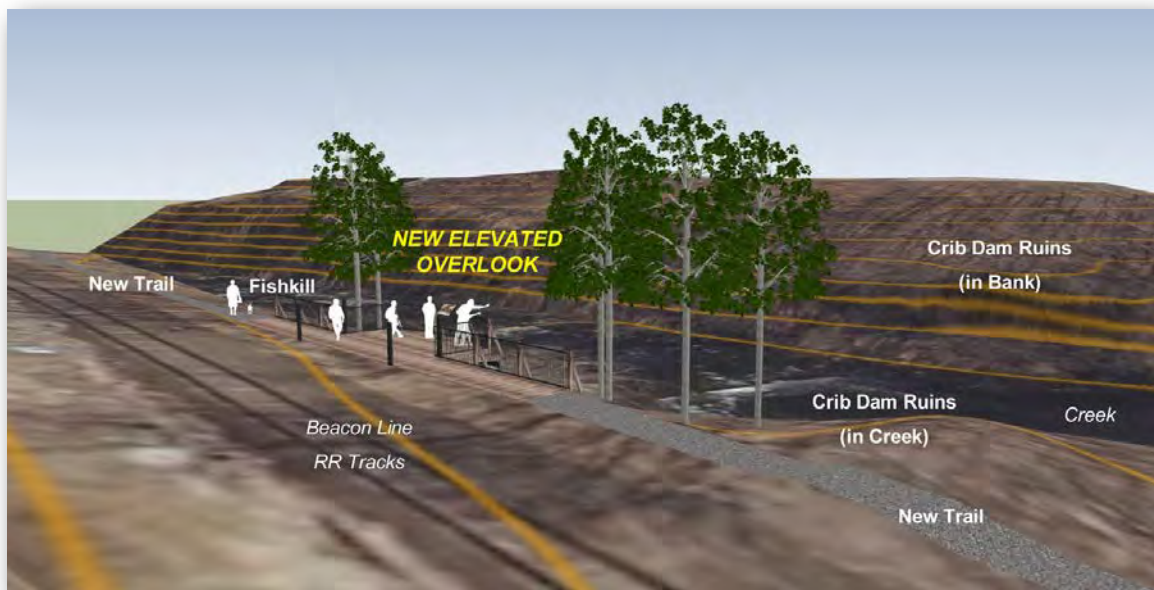


*Proposed View of Pinch Point Boardwalk*

**Timber Crib Dam Overlook Concept** - Similar to the proposed elevated boardwalk concept, a viewing platform is an elevated structure acting as a deck over challenging terrain to give trail users a bird's eye view of an important trail element. At this location, the FCGHT is proposing a viewing platform at the location of a historic Carroll Electric Company hydro-electric timber crib dam located north of the Tallix Foundry complex. The new platform would create a small trailside 'pull-off' where users would get a bird's eye view of the crib dam ruins within the creek bed and along the southern bank. The platform is envisioned at approximately 20' long and extending 12' beyond the trail edge. Integrated into the platform would be interpretive signage describing what users are seeing, its engineering and function, and its historical significance.



*Bird's Eye View of Crib Dam Overlook (Concept)*



*Elevated View of Crib Dam Overlook (looking north)*





*Elevated Viewing Platform Example (Kent Falls State Park, CT)*



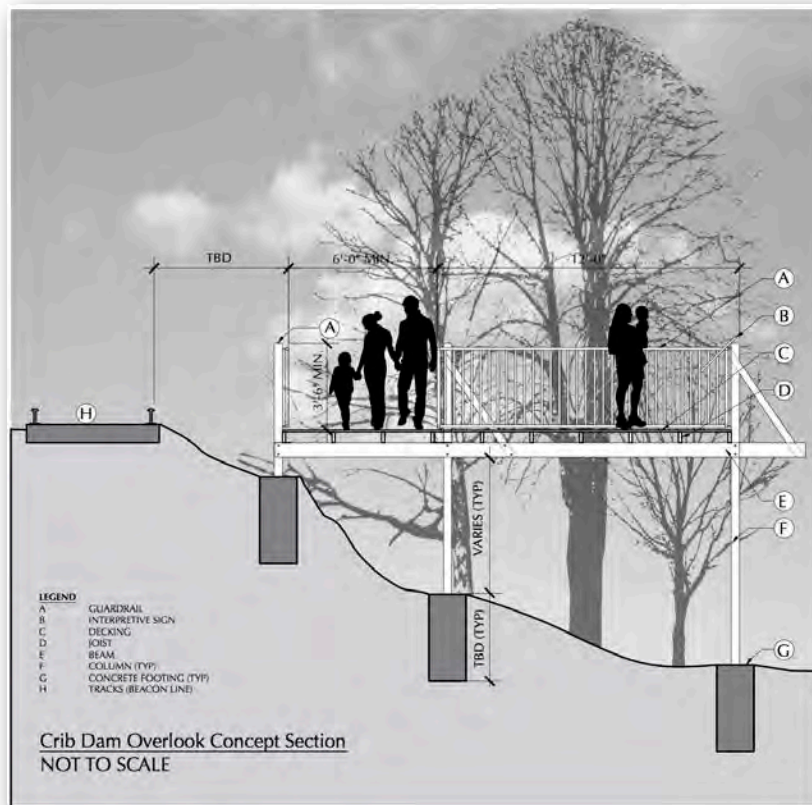
*Existing Conditions View at Crib Dam Overlook (looking north)*



*Proposed View of Crib Dam Overlook*



*View of Timber Crib Dam and Infrastructure from Overlook*



*Crib Dam Overlook Concept Section*

*Boardwalks and Overlook Structures should go through an extensive design process to ensure they can withstand and do not contribute to flooding hazards, are ADA compliant, and minimize impact to the surrounding environment. The concepts shown in this master plan are intended to describe a*

*solution and aesthetic flavor and should be used for reference only. Actual boardwalk design and construction details must be developed for each specific boardwalk area to be constructed. Helical or 'screw' piles are recommended for building boardwalks and viewing platforms along the FCGHT. They are less disruptive to existing topography and soils, they bed better than concrete footings in slopes and they are more environmentally sensitive than using chemically treated lumber.*

### *Rehabilitated Structures*

There are 2 significant bridge sites along the FCGHT that serve as important historic resources. Although they are not imperative to the establishment of the FCGHT, their rehabilitation would provide vital greenway connections to the western part of the City and points south. These bridges are:

The *Tioronda Bridge* is located on South Avenue and is a rare multiple-span, wrought iron, riveted tubular bowstring arch truss bridge type built between 1869 and 1873. The intact structure was listed in the National Register of Historic Places in 1976.



The reconstruction of this bridge in any form would provide a critical connection to the major recreational resources to the east and south including Mt. Beacon Park, the University Settlement Camp and the Hudson Highlands State Park.

The *Bridge Street Bridge* is located at the end of Front Street and is a single-span, Whipple-type truss built by the New York Bridge Company in 1879.



The rehabilitation of this bridge for pedestrian traffic would provide a great access point to the trail from the northeastern most part of the City and would provide a direct connection the City's Hiddenbrooke Park.

#### *Other Proposed Physical Elements*

In order for the FCGHT to appeal to a wide variety of users, it should be designed to incorporate as many user conveniences as possible. Recommended trail amenities include the following:

**Roadway Crossings** - Each trail/street intersection should be examined individually as each has unique characteristics. Uniformity in the use of traffic control devices is critical to encourage proper and predictable behavior at intersections. The Manual on Uniform Traffic Control Devices (MUTCD) will be followed for size, shape, color and placement of traffic related signage on both the trail and the street at intersections. In addition, coordination with the City of Beacon and New York State Department of Transportation will ensure the proper design and layout of traffic control devices and/or signage necessary to warn users of public streets of trail crossings.

All street crossings will occur at grade. Where the trail crosses a public street, the street traffic will have the right-of-way and trail users will stop and yield to traffic on the public street. Signals may also need to be integrated into existing signalization, especially at Wolcott Avenue.

The physical improvements to be considered for designing safe crossings where the FCGHT crosses public streets fall into two broad categories: trail improvements and street improvements.

*Trail Improvements* - Consistency in design of the trail as it approaches an intersection is important to establish proper and safe use. The following improvements may be appropriate to alert trail users to be aware and concentrate on safely negotiating each street intersection:

- Warning signs of upcoming intersections should be placed well before the intersection.
- Cross rails and/or bollards forcing trail users to come to a complete stop before crossing the street.
- Stop sign along trail placed approximately 10 feet from the edge of the street.

*Street Improvements* - Although improvements to streets at trail crossings will vary according to the particular characteristics of the intersection, certain features will remain consistent:

- Advance warning signs placed before the trail crossing and identification signs at crossing point.
- Crosswalk pavement markings at crossing point and/or other "Trail Xing" markings on the roadway.
- No Motor Vehicles signs placed facing the street at all trail intersections if necessary.

Street crossings which will require some or all of these types of crossing improvements include **Wolcott Avenue (Route 9D), Churchill Street, East Main Street and Front Street**. *Street crossings should be designed in accordance with AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (July 2004 edition).*

**Metal Staircase** - One area of the trail is the proposed connection to Wolcott Avenue. Wolcott Avenue sits approximately 25' above the top of the Fishkill Creek bank where the FCGHT will be located. This elevation change is in the form of a steep abutment fill section associated with the Wolcott Avenue Bridge. This location is an important connection to the City sidewalk system and recreational points south.

In order to traverse this steep grade and make the pedestrian connection up to Wolcott Avenue, the most economical solution is the construct a light, metal frame staircase. It is envisioned that this

staircase would contain several overlook landings and safety railings. This proposed method and material of traversing this connection has the ability to be modular is design, carry a light footprint relative to ground disturbance withstand extreme conditions.



*Outdoor Metal Staircase Examples (Mount Beacon Park)*

**Benches** - Seating opportunities should be integrated along the route. Opportunities for seating exist at scenic viewpoints and transition areas such are trailheads. As a simple and affordable seating vocabulary has already been established within Madam Brett Park, the FCGHT should adopt that as the trail standard for targeted seating along the entire route.



*Wood Bench at Madam Brett Park as standard for FCGH Trail*

**Bike Storage Racks** – Bicycle storage racks should be an integral part of all trailheads designs. Storage racks provide another opportunity to blend the common identifying elements into their

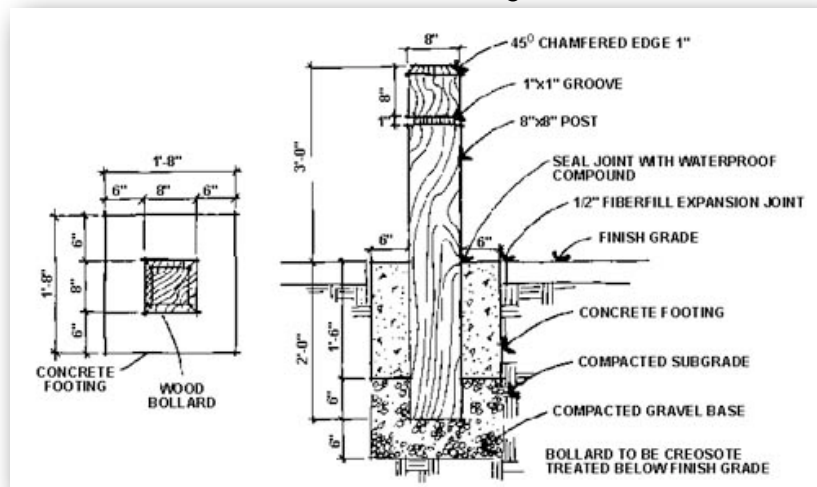
design. Bike racks should be constructed of sturdy materials able to withstand harsh conditions, both physically and elementally.



*Urban Bicycle Racks Examples*

**Bollards** - Posts or bollards at roadway-trail intersections and trail entrances will be necessary to keep vehicles from entering the Fishkill Creek Trail. Posts will be designed to be visible to trail users, especially at nighttime, with reflective materials and appropriate striping. Certain bollards will also be designed to be removable by emergency and maintenance vehicles.

- Fixed bollards: Should be used at roadway-trail intersections. Bollards should be heavy timber structures and spaced at five feet on center.
- Removable bollards: Install center removable bollards at intersections that can be keyed and locked to allow maintenance and emergency service vehicle access to the trail. Recommend use of metal connections and locking mechanism.



*Typical Wood Bollard Detail*



*Wood Bollard Examples (with integrated lighting and signage)*

**Lighting** – Adequate lighting at transition and other important locations is critical for public safety. Lighting should be placed at trail access points, in and around any enclosed spaces and at any road crossings. This will help facilitate security surveillance of the trail by police and other trail authorities. Full cutoff luminaries should be used to minimize unwanted light onto private property and employ dark sky lighting strategies. Lighting could be phased in along with larger trail development projects and/or as funding becomes available. At a minimum, lighting should be planned for during all phases of trail construction for ease of installation (i.e. installation of conduit).

Initial areas for site lighting should be at trailheads and around to Main Street (city center). Trail lighting within existing lighting districts should be incorporated into those districts and should coincide with the development of individual trail sections. For more remote reaches of the trail, advances in LED, solar and battery technology, installing remote solar-powered LED area lighting is entirely possible and should be incorporated whenever possible.



*Pole Mounted LED Lighting Example (with or without solar power for remote areas)*

**Guiderail and Fencing** – Boundaries are an important physical element that helps trail users understand and stay on the trail, protect sensitive areas and provide screening and security. Although the public often perceives elements such as guiderail and fencing as a means of assuring safety by prevention of unwanted access, too much hard screening can have the opposite effect by impairing informal trail surveillance. Inappropriate fencing can also degrade the experience of trail users, obscure views, and create a “tunnel” effect that makes users feel trapped. Some general rules to follow when considering the the use of guiderails and fencing include:

- A maximum fence height of six feet is generally sufficient to provide adequate privacy and security for adjacent private landowners. A lower fence height of four feet is sufficient to clearly denote private property ownership or will deter most unwanted access by trail users.
- Along the trail, a simple 2 or 3-row cedar post and rail fence or single row guiderails is generally adequate to direct users along an appropriate route.
- Should adjacent property owners choose to build fences, a variety of fencing applications can be considered.
- Solid fencing that does not allow any visual access to the trail should be discouraged.
- Fencing that allows a balance between adjacent residents’ privacy and informal surveillance of the trail should be encouraged.
- If fencing is desired purely for privacy reasons, vegetative buffers are recommended.



*Wood Guiderail Examples*



*Wood Post and Rail Fence Example*



**Landscaping and Vegetative Buffers** – Whenever possible, landscaping is the first choice for creating separation between the trail and adjacent properties. Vegetative buffers have the dual purpose of creating a natural privacy screen, providing habitat for some of the wildlife that live in the creek corridor, and stabilizing the creek bank. Landscaping can also be an effective barrier to unwanted access where needed.

There are several sections of creek bank have been disturbed from dumping of debris and past vegetation clearing. A sustainable method of restoring some of the areas along the creek is to re-establish native vegetation to provide bank stabilization, stream shading to improve water quality, and riparian habitat for wildlife.

A key to establishing native vegetation is controlling non-native species such as Norway Maple, Alienhus, Japanese Barberry and Burning Bush. These aggressive species have invaded many impacted areas in the corridor and prevent the recruitment of native vegetation by monopolizing soil nutrients and space. While complete eradication of invasive species is not feasible, local control and removal would be necessary to allow the successful establishment of native plantings.

*Recommended Native Trees:* American Sycamore (*Platanus occidentalis*), Red Maple (*Acer rubrum*), Shagbark Hickory (*Carya ovata*), White Basswood (*Tilia heterophylla*), Ironwood (*Carpinus carolinia*), Dogwood (*Cornus alternatfolia*), Eastern Redbud (*Cercis canadensis*)

*Recommended Native Small Trees / Shrubs:* Witchhazel (*Hamamelis virginiana*), Serviceberry (*Amelanchier*), Silky Dogwood (*Cornus amomum*), Winterberry (*Ilex verticulata*),

**Restrooms** – The only potential for a fully functioning public restroom with water supply would be at a potentially repurposed highway garage structure. It is known that in the long term, the City Highway facility is slated for relocation. Conceivably the repurposing of the existing highway structure (or portion thereof) would be part of a larger redevelopment of this parcel as a public park. An alternate method for providing at least some kind of restroom opportunity would be a strategically located composting toilet station such as a Clivus Multrum. In any event, the inclusion of public restroom facilities would need to be part of a larger maintenance program and commitment.

**Public Art** - Local artists should be encouraged to produce artwork in a variety of materials for sites along the FCGHT corridor that reflect the Beacon Community and the Hudson Valley at-large. Public art can be aesthetic or functional, doubling as sitting or congregation areas. Providing opportunities for public display of art, the trail adds interest to the trail experience. And depending on the type and scale, unveilings can become large events and could serve to expand the trail user group bases.



*Public Art Examples (Permanent and Temporary)*

**Refuse / Recycling / Pet waste pickup stations** - The trail should establish the National Park Service ethic of “pack it in, pack it out”. However, should refuse and recycling containers be provided, they should be placed at proposed trailhead locations. Dog waste pickup stations (bag dispensers) should also be placed at trailheads and key neighborhood access points along the route. Signs should be placed along the trail notifying pet owners of the local City leash law and to pick up after their dogs. Local grocery stores may be willing to donate rolls of produce bags for these stations. The City should also modify the local leash law to include picking up after pets while using this and/or other trails within the City.